EFFECTIVENESS OF LIGHT THERAPY ON DEPRESSION AMONG DEPRESSIVE PATIENT AT SELECTED PSYCHIATRIC WARD IN COIMBATORE MEDICAL COLLEGE HOSPITAL, COIMBATORE

REG. NO. 30101443

A Dissertation Submitted to
The Tamilnadu Dr. M. G. R. Medical University,
Chennai – 32.

In Partial Fulfillment of the Requirement for the
Award of the Degree of

MASTER OF SCIENCE IN NURSING

2012

EFFECTIVENESS OF LIGHT THERAPY ON DEPRESSION AMONG DEPRESSIVE PATIENT AT SELECTED PSYCHIATRIC WARD IN COIMBATORE MEDICAL COLLEGE HOSPITAL, COIMBATORE

1. **Mrs. Nuziba Begum, M. Sc (N).,**
   Department of Mental Health (Psyhciatric) Nursing,
   College of Nursing,
   Sri Ramakrishna Institute of Paramedical Sciences,
   Coimbatore - 641 044.

2. **Dr. G. K. Sellakumar, M. A., M. Phil., P. G. D. P. M., Ph. D.,**
   Professor and Head,
   Department of Psychology & Research Methodology,
   College of Nursing,
   Sri Ramakrishna Institute of Paramedical Sciences,
   Coimbatore - 641 044.

3. **Dr. Nandakumar, M. D. (Psychiatry)., D. P. M.,**
   Associate Professor & HOD,
   Department of Psychiatry,
   Coimbatore Medical College Hospital,
   Coimbatore – 641 018.

Certified that this is the bonafide work of

S. PRIYA

COLLEGE OF NURSING
Sri Ramakrishna Institute of Paramedical Sciences
Coimbatore - 641 044.

Submitted in Partial Fulfillment of the Requirement for the Award of the Degree of

MASTER OF SCIENCE IN NURSING

to The Tamilnadu Dr. M. G. R. Medical University, Chennai – 32.

College Seal

Prof. (Mrs.) SEETHALAKSHMI,
B. Sc., R. N., R. M., M. N., M. Phil., (Ph. D).,
Principal,
College of Nursing,
Sri Ramakrishna Institute of Paramedical Sciences,
Coimbatore - 641 044,
Tamilnadu, India.

COLLEGE OF NURSING
Sri Ramakrishna Institute of Paramedical Sciences
Coimbatore.

2012

ACKNOWLEDGEMENT

I express my heartfelt thanks to honourable **Thiru. C. Soundararaj Avl.,** Managing Trustee, M/S. S.N.R. & Sons Charitable Trust for giving me an opportunity to utilize all the facilities in this esteemed institution.

I am immensely grateful to **Prof. Seethalakshmi**, B.Sc (N)., R. N. R. M., M. N., M. Phil., (Ph. D)., Principal, College of Nursing, Sri Ramakrishna Institute of Paramedical Sciences, Coimbatore for her valuable guidance and support throughout the study.

I extend my sincere and deepest thanks to **Prof. (Mrs.) R. Ramathilagam, M. Sc (N).,** Vice Principal, HOD, Department of Medical Surgical Nursing for her constant support, encouragement and valuable suggestions throughout the study.

My sincere thanks to **Mrs. Nuziba Begum**, M. Sc (N)., M. Sc (C&P)., Associate Professor, for her valuable guidance, encouragement and keen interest in conception, planning and execution of the study. I feel extremely privileged to have her as my subject guide.

My sincere thanks to **Dr. V. Nandakumar,** M. D (Psychiatry). D. P. M., **Dr.K. Marikannan,** M. D (Psychiatry) and **Dr. C. Vellaichamy** M. B. B. S**.,** D. P. M**.,** (D.N.B) for their valuable guidance throughout the study.

I express my special and sincere thanks to **Dr. G. K. Sellakumar**, M. A., M. Phil., P. G. D. P. M., Ph. D., Professor in Psychology & Research Methodology, **Mrs.R.Ramya**, M. Sc., M. Phil., Associate Professor, Department of Biostatistics for their intelligent guidance and constant encouragement which contributed a great deal to give meaning and enrichment to the study.

My sincere thanks to **Prof. S. Girijakumari**, M. Sc (N)., **Prof. Suganthi**, M.Sc (N)., **Prof**. **Mrs. R. Renuka,** M. Sc (N)., and **Prof. W. Chitra** M. Sc (N) for their moral support and valuable suggestion in completing the study.

I extend my special and sincere thanks to **Mrs. Elizabeth Jebakani,** M. Sc (N)., **Mr. Sathish Kumar, C.**, M. Sc (N)., for their moral support and valuable suggestion in completing the study.

I extend my sincere thanks to the **Study Participant** for her co-operation.

My deepest thanks to all **Faculties** of various departments, **Librarian, Classmates** and **my Husband, Parents** and **my Son Master Yagyesh** who rendered their supporting hands throughout my research work.

CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

LIST OF ANNEXURES

LIGHT THERAPY ON DEPRESSION

EFFECTIVENESS OF LIGHT THERAPY ON DEPRESSION AMONG DEPRESSIVE PATIENT AT SELECTED PSYCHIATRIC WARD IN COIMBATORE MEDICAL COLLEGE HOSPITAL, COIMBATORE

REG. NO. 30101443

A Dissertation Submitted to
The Tamilnadu Dr. M. G. R. Medical University,
Chennai - 32.

In partial fulfillment of the requirement for the
Award of the Degree of

MASTER OF SCIENCE IN NURSING

2012

Abstract

Literature evidences that light therapy is found to be an effective intervention to depressive patients. This was tested through an experimental approach with single subject experimental design. Hamilton Rating Scale for Depression was administered to assess the level of depression. Purposive sample of single depressive patient was selected for the study. Light therapy was administered for 30 minutes a day for seven consecutive days. Descriptive and inferential statistics were used to analyze the data. The result reveals that light therapy significantly reduced the level of depression. Hence, the light therapy can be used as a complementary therapy to patients with depression.

Effectiveness of Light Therapy on Depression among Depressive Patient at selected Psychiatric Ward in Coimbatore Medical College Hospital, Coimbatore

Depression is a common cold of mental disorder with symptoms of depressed mood, loss of interest or pleasure, feelings of guilt or low self - worth, disturbed sleep or appetite, low energy and poor concentration (WHO, 2010).

Depression is characterized by negative feelings and emotions. It also affects the person's relationship with family members, social life and daily life activities. Its impact is equal to chronic medical conditions.

Depression is an illness that, affects the thoughts, feelings, behavior and physical health. One in five people will suffer from depression during their lifetime. Depression is an equal-opportunity illness, highly prevalent as a leading cause of disability, morbidity and mortality worldwide. It affects people in all ages, races, economic groups and both genders. Women, however, suffer from depression almost twice as much as men (Nehru, 2010).

Men refuses their feelings but if the woman feels small degree of upset also states that she is depressed. A man may express the feelings through anger or alcoholism. It does not mean that men are less depressed than women (Singh, 2010).

The timely diagnosis and treatment of depressive disorders are essential irrespective of casualty. Depression can be treated in primary care or community settings using locally available and cost-effective interventions (WHO, 1990). Nonstandard alternatives to conventional antidepressant treatment include exercise,

light therapy, sleep deprivation, and various complementary and alternative therapies (Howland, 2007).

Sun plays a very important role in the daily lives. Nowadays most of the doctors and medical researchers refer the sun as a healer than a hazard (Lewy, 1980). Light therapy is usually recommended for the treatment of seasonal affective disorder. It is also effective for non seasonal disorder. Some research supports it's benefit for sleep disturbances, depression, bipolar disorder and schizoaffective disorder (Bernard, 2004).

In Light therapy, Light rays passes through the retina are converted into nerve impulses, which influence the secretion of melatonin. Light rays transmitted via hypothalamus has a higher intensity than that required for vision, suggest that high intensity light is required for the effect of light on the brain (Lewy, 1980).

A photo receptor in the human eye is responsible for reacting to light and controlling the production of melatonin. Light in the range of 447-484 nm (nanometers) is responsible for suppressing melatonin production and shifting circadian rhythms. Indeed, this bandwidth of equal height and width is up to ten times more effective than other wavelengths (Brainard, 2001).

A modest increase in lighting may help with a mild problem. A more severe problem may need much brighter lighting and a longer duration of bright lighting to overcome. The amount of light needed should at least bring a depressed person above the average for daily light exposure. This can be achieved through exposing the person to a very brighter light near 10,000 lux for 30 minutes or 2500 lux for 2 hours.

During the light therapy, the client should not stare at the fluorescent bulbs even the intensity is 10,000 lux because it burns the retina and dim the vision (Phillip, 2009).

In many cases, light therapy is used as a complementary therapy. Hence, with antidepressants, light therapy can be a wonderful treatment for depression (Pandey, 2010).

Researches support that light therapy is effective in treating Non seasonal depression as well as seasonal affective disorder, Temporal lobe epilepsy, Borderline personality disorder, Anxiety, Chronic anorexia nervosa, Insomnia, Behavioral and cognitive symptoms of dementia, Post partum depression, Alzheimer's disease, Parkinson's disease, Adult with Attention deficit hyperactivity disorder, Ante partum depression and Premenstrual dysphoric disorder.

Pregnant women and lactating women are contraindicated to take antidepressants. Light therapy can be good option for them, it is also used for people who are not willing and are severely contraindicated to antidepressants.

1.1. NEED FOR THE STUDY

Depression is the leading cause of disability and 4th leading cause to the global burden of disease. By the year 2020, depression is projected to reach 2nd place. Today depression is 2nd cause in the age category of 15-44 years for both sexes.

Depression is common in affecting about 121 million people worldwide. Less than 25 % of affected people access to treatments. Depression gets first place in the occupational diseases of 21st century. In high income countries, 15 % of people and in low or middle income countries 11 % of people are affected by depression. Contrast

to this, in India 36 % people are affected by depression. In worldwide 8,50,000 death occurred per year due to suicide (WHO, 2010).

Among Southeast Asians, 71 % people are affected by Major affective disorders such as depression (National Alliance on Mental Illness, 2011).

Depression among youth has increased from 2 % to 12 % in the last five years. In India, 20 % of people are suffering from depression. The common age group committing suicide is between 18 and 45. About one lakh people die every year due to suicide in India (Thomson, 2011).

In India, depression rates ranged from 6 % to 35 %. Depression is more common in women than men at the ratio of 2:1. Depression rates are higher in north India than south India. In Tamilnadu, 50 % of teen age population are affected by depression. Suicide rate of teen age population was 148/100,000 for women and 58/100,000 for men (Caruso, 2010).

Depressive patients admitted in Coimbatore Medical College Hospital, Coimbatore at the year of 2010 were

January - 1

February - 0

March - 2

April - 1

May - 1

June - 3

July - 0

August	-	2
September	-	1
October	-	3
November	-	1
December	-	0

Depressive disorders lead to significant dysfunction, disability and poor quality of life in patient's and significant burden to care givers. The pattern of burden experienced by the patients relatives with affective disorders and schizophrenia are similar, felt in the areas of family routine, leisure, interaction and finances (Grover, Dutt & Avasthi, 2010).

Depression affects the normal functioning of the person as well as causes problems in social, working and family adjustment. Depression leads to severe emotional pain, disruption of lives of people, reduces the work productivity and leads to absenteeism and has negative impact on the economy (Franklin, 2011).

Teen age depression leads to problems at school such as poor attendance, a drop in grades, frustration with school work, running away, drug and alcohol abuse, low self esteem, internet addiction, reckless behavior, violence and suicidal attempt (Smith, Barston & Segal, 2011).

The therapeutic effect of antidepressants will occur between three to eight weeks after starting the treatment. Antidepressants are administered continuously for minimum period of six months to prevent the recurrence. For chronic depressive clients drugs are administered throughout their life period. More over antidepressants

have more side effects. But incase of light therapy, it reduces the level of depression within one week and has minimal side effects.

Light therapy is an effective treatment for all types of depression. It elevates the mood as it enhances the secretion of serotonin in our body. It is also non-invasive with relatively few and minor side effects and can be used without the supervision of psychiatrist.

There is strong evidence from a number of studies indicating that many people with non seasonal unipolar depression respond to light therapy. Overall, the effectiveness of light therapy for depression depends on a number of things, including the type of depression, the brightness of the light, the duration of light exposure, and other factors. Light therapy may be used to reduce the physical anxiety (Copley, 2008).

A meta analysis was conducted to assess the efficacy of light therapy for non seasonal depression. The researchers reviewed 20 randomized controlled trials mainly those studies conducted less than 8 days in which bright light therapy was used as an adjunctive treatment to drug therapy, sleep deprivation or both. The effectiveness was better in bright light group than control group. Hypomania was more common in bright light therapy group than control group. The reviewers concluded that the benefit of light therapy was modest though promising for non seasonal depression (Kripke & Tuuaninen, 2004).

Research suggests that some women who suffer from ante partum or postpartum depression may benefit from light therapy. Light therapy does show promise for treating a number of conditions including Premenstrual syndrome and Attention Deficit Hyperactivity Disorder (Copley, 2008).

Light therapy is one of the non pharmacological therapy which is proved as effective in treating depression. The present researcher had witnessed the problems faced by many of the depressive clients during the time of hospitalization. Enormous review stating that light therapy is effective in reducing the depressive features including suicidal ideation within one week, the present researcher is interested to study the effectiveness of light therapy on depression.

1.2. STATEMENT OF THE PROBLEM

EFFECTIVENESS OF LIGHT THERAPY ON DEPRESSION AMONG DEPRESSIVE PATIENT AT SELECTED PSYCHIATRIC WARD IN COIMBATORE MEDICAL COLLEGE HOSPITAL, COIMBATORE

1.3. OBJECTIVES

1.3.1. To assess the level of depression.

1.3.2. To administer the light therapy for patient with depression.

1.3.3. To assess the level of depression after the administration of light therapy.

1.4. OPERATIONAL DEFINITIONS

1.4.1. Effectiveness

It refers to the reduction in level of depression after the administration of light therapy.

1.4.2. Light Therapy

Exposure of the depressed patient to the bright white light which is free from ultra violet rays which had 10,000 lux intensity for the duration of 30 minutes in a day for seven days.

1.4.3. Patient

One who is hospitalized with the diagnosis of depression.

1.4.4. Depression

It is a condition of sad mood more than 14 days which is severe depression screened through Hamilton Rating Scale for Depression.

1.5. CONCEPTUAL FRAME WORK

Conceptual framework is global idea about a concept in relation to a specific discipline. Conceptual models are made up of concepts which describe the mental images of a phenomenon and integrate them into a meaningful configuration. It is a visual diagram by wich the researcher explains the specific area of interest.

Widen Bach's Helping Art Clinical Nursing Theory (1964) was chosen as conceptual framework for this study. Widenbach views nursing as an art based directed care. Widenbach's vision of nursing practice closely parallels to the assessment, implementation and evaluation steps of the nursing process. It consists of three components such as identification, ministration and validation.

1.5.1. Identification

It involves viewing the patient as an individual with unique experience and understanding the patient's perception of the condition.

Determining a patient's need for help, based on the existence of a need whether the patient realizes the need, what prevents the patient from meeting the need, and whether the patient cannot meet the need alone.

Patient who experienced severe depression was selected for the study. The base line of level of depression was assessed three times with 30 minutes interval.

1.5.2. Ministration

It refers to provision of needed help

It requires an identified need and a patient who wants help.

The present researcher administered 10,000 lux intensity of bright light for 30 minutes per day for seven days.

1.5.3. Validation

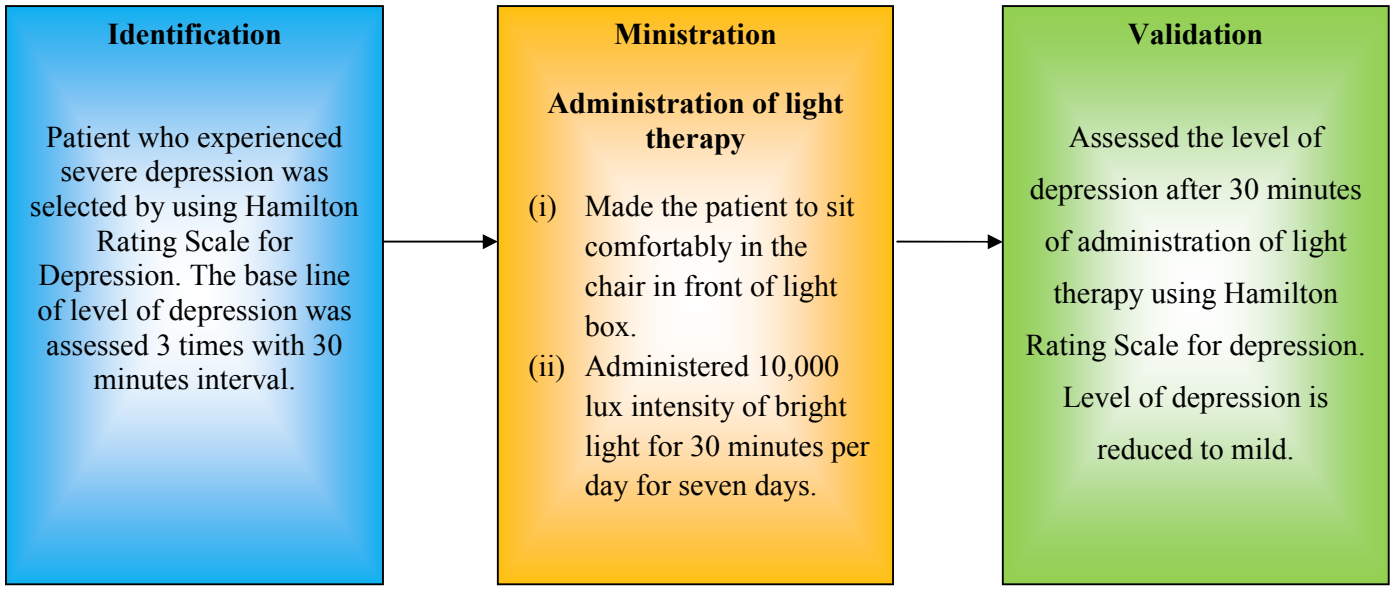
It refers to collection of evidence that shows a patient's need have been met and that his functional ability has been restored as a direct result of the nurse's actions.

It is based on patient's oriented evidence.

The researcher assesses the level of depression after 30 minutes of administration of light therapy using Hamilton Rating Scale for depression.

FIG. 1.1.

WIDEN BACH'S HELPING ART CLINICAL NURSING THEORY (1964)



Source: Wesley (1994)

1.6. PROJECTED OUTCOME

Administration of light therapy for patient with depression will help to reduce the level of depression.

REVIEW OF LITERATURE

The present chapter discuss about the review of literature pertinent to the study. The literature review is discussed under the following headings:

2.1. Literature related to depression.

2.2. Literature related to light therapy.

2.3. Literature related to light therapy on depression.

2.1. LITERATURE RELATED TO DEPRESSION

A meta analysis conducted to review the literature available about birth related paternal depression. Literatures related to paternal depression were searched from the year of 1980 to 2007 through Medline electronic database. Various studies stated that birth related paternal depression was a significant problem and it was closely associated with maternal depressive symptoms. Children of depressive fathers were also at risk for emotional and behavioral problems. The study concluded that paternal depression was not a rare phenomenon and increased level of public awareness, scientific interest was warranted. The study recommended for detailed assessment of fathers during postnatal period (Schumacher, Zubaran & White, 2008).

A population based cohort study conducted to compare the prevalence of depression and depressive symptomatology with institutionalized elder patient and those living in other settings. Total population was 1,30,004 with individuals aged 65 and above. From that through stratified random sampling method 2,640 participants were

selected using Geriatric Mental state Examination. The prevalence of depression in institutionalized clients was 27.1 % when compared to 9.3 % prevalence rate of people living in other settings. The study concluded that depression was highly prevalent in institutions particularly in younger individuals with severe functional impairment (Mc Dougall, Matthews, Kvaal, Dewey & Brayne, 2007).

A meta analysis conducted to review the literature estimating prevalence of clinical depression in adults with type I Diabetes Mellitus. Electronic databases and published references were used to identify studies from January 2000 to June 2004 with previous Meta analysis of studies before January 2000. Prevalence of Depression in controlled study was 12 % for people with Diabetes Mellitus compared with 3.2 % for control group. Prevalence of depression in non controlled study group was 13.4 %. The study recommended to use diagnostic interviewing technique for controlled study to estimate the prevalence of depression (Bernard, Skinner & Peveler, 2006).

A study conducted to present prevalence rate of Major depressive disorder among adults. Sample of 43,000 adults with the age group of 18 years were selected through Face to Face survey. The study concluded that prevalence rate of Major depressive disorder was 5.28 % (Hasin, Goodwin, Stinson & Grant, 2005).

A prospective study conducted in a large south eastern metro politian area to determine the incidence of postpartum depression. Samples of 102 puerperal women attending child birth education classes were selected using Beck depression inventory. The study concluded that 8 % of women had postpartum depression as they reported

emotional, behavioral and cognitive symptoms. Anecdotal data stated that the incidence was probably higher. The study recommended that measuring atypical depression which includes qualitative measures to obtain subjective data are needed (Ugarriza, 1995).

2.2. LITERATURE RELATED TO LIGHT THERAPY

A randomized controlled study conducted to compare the effects of low intensity bright light therapy with high intensity standard light therapy. Sample of 22 patients with Seasonal affective disorder were selected using SIGH-SAD tool. The light therapy was administered for the duration of 30 minutes for two weeks with 750 lux intensity of standard light therapy and 10,000 lux intensity for bright light therapy. The study concluded that there was significant reduction in the level of depression after standard light therapy is 65.2 % and after bright light therapy is 76.4 % (Meesters, Dekker, Schalangen, Bos & Ruter, 2011).

A randomized controlled trial was conducted to examine the influence of bright light therapy in high anxious young adults. Sample of 33 patients were selected using Hamilton Anxiety Scale, Hamilton Depression scale and clinical global impression scale. Bright light therapy was administered for the duration of 45 minutes for five weeks. Bright light therapy reduced the psychotic symptoms. The research concluded that there is little anxiolytic effect of bright light therapy in high anxious young adults (Youngstedt, Kline, Ginsberg, Zielinski & Hardin, 2011).

A study conducted to examine the effect of bright light therapy on Anorexia nervosa. Sample of five chronic anorexic women were selected through diagnostic interview & questionnaire. Bright light therapy with the intensity of 10,000 lux was administered for five daily sessions of the duration of 30 minutes and three months follow up has done. The research concluded that bright light therapy has short term positive effect on the physiological and psychological well being of chronic anorectic women (Daansen & Haffman, 2010).

A study conducted to assess the efficacy of red light fluorescent light therapy in photo rejuvenation of skin. The light therapy was given using 600 – 700 nm light spectrum for the duration of 20 minutes for 10 weeks. The number of sample was 51 and age range from 24 - 72 years. The researcher concluded that the light therapy was an effective and acceptable method to build up collagen in the skin (Angehrn , 2009).

A double – blind randomized control trial was conducted to compare the effectiveness of light therapy and an antidepressant within a single trial. Sample of 96 patients were selected using 24 item Hamilton Rating Scale for depression. Intervention was administered with either 10000 lux light therapy and a placebo capsule or 100 lux placebo light therapy for 30 minutes per day and Fluoxetine 20 mg per day was given in the morning. The clinical response rates were 67 % for both groups. Remission rates were 50 % for light therapy and 54 % for fluoxetine therapy. Post hoc testing stated that light therapy patients had greater improvement at one week. Fluoxetine treated patients had

adverse effects such as agitation, sleep disturbance and palpitation. The study concluded that light therapy showed earlier response and lower adverse events (Lam, et al., 2006).

A-B-C single case design conducted to assess the effect of bright light therapy on Seasonal affective disorder. Sample of 46 years old woman diagnosed major depression with seasonal pattern was selected using Hamilton Anxiety and Depression scale with Beck Depression Inventory. The bright light therapy of 10000 lux was administered for three weeks. The research concluded that there was improvement of 74-80 %. Depression and anxiety levels returned close to baseline levels following one week of intervention and effect of light therapy was short lived after discontinuation of treatment with rapid relapse (Moscovici, 2006).

A study conducted to examine the effect of bright light therapy on sleep and mood symptoms in adult ADHD. Sample of 29 adults with ADHD were selected using Brown adult ADD scale and Conner's adult ADHD scale, and Hamilton Depression Rating Scale, Horne – ostberg Morningness- Eveningness Questionnaire. Multiple Regression analysis of the data was used to assess the effect. The research concluded that during the winter period, light therapy might be a useful adjunct in many adults with ADHD (Rybak, Mcneely, Mackenezie, Jain & Lenten, 2006).

A study conducted to compare the treatment of seasonal major and minor depression with light. Total of 44 patients, in that 29 SAD and 15 subsyndromal SAD were recruited from clinic patients and media advertising through the structured interview using Hamilton Rating Scale for Depression- SAD version. The light therapy was

administered at morning for the duration of 30 minutes daily for three weeks using a new fluorescent light with 5,000 lux at a distance of 12 inches. Researcher concluded that Light therapy was an effective treatment for both major and minor depression with seasonal pattern (Levitt, Lam & Levitan, 2002).

2.3. LITERATURE RELATED TO LIGHT THERAPY ON DEPRESSION

A randomized controlled pilot trial was conducted to assess the effectiveness of light therapy as an augmentation therapy for depression among active duty service members. A systematic random sampling method was used. Zung self rating depression scale was used to assess the depression level. Experimental group was received usual standard of care and 50 lux light therapy for five days. A repeated measures analysis of variance was used to measure the changes in level of depression. The significant level was 5.05, $P<0.02$ which indicates depression level was reduced for both groups. Post hoc comparisons showed that post test was lower than pre test ($P<0.004$) and a statistical trend ($P<0.05$) was reduced in treatment group. The research was concluded as there was reduction in depression during active phase of treatment (Lande, Williams, Gragna & Albert, 2011).

A Double blind placebo controlled randomized clinical trial was conducted to determine the efficacy of bright light therapy in elderly patients with major depressive disorder. Eighty nine patients with the age of 60 or above were selected using the Hamilton rating scale for depression. Bright light therapy with pale blue 7500 lux was administered for the duration of one hour early morning for three weeks and dim red light

with 50 lux also administered. The treatment was given at baseline (To), after three weeks (T1) and after six weeks (T2). Bright light therapy (To) was more effective than T1 (with 95 % confidence interval, P=0.03) and from To to T2 (CI =21 %, P=0.01). In bright light therapy, sleep efficiency increased to 2 % and melatonin levels increased to 81 % than placebo group. In T2 group, urine cortisol level was 37 % lower (P=0.003) compared with the placebo group. The researcher concluded that for the elderly patients with Major Depressive Disorder, bright light therapy improved mood, sleep efficiency and melatonin level (Liverse, 2011).

The study conducted to assess the effectiveness of combination of antidepressants with bright light for depressed patients with co morbid Borderline personality disorder. Sample of 13 female patients were recruited. The interventions were applied for six weeks with antidepressants and with bright light 10,000 lux between 6.30 to 7.30 A.M. The study concluded that bright light administration leads to significant improvement (Prasko, 2010).

A study conducted to assess the effect of light therapy for post partum depression. Sample of 15 women with postpartum depression were selected using self report depression scales and bright light therapy with the intensity of 10,000 lux was administered for 15 patients for six weeks. The research concluded that there was significant improvement on all measures (Corrol, Wardrop, Zhang, Grewal & Pattson, 2007).

A study conducted to assess the effectiveness of light therapy on depression among older adults. Sample of 81 between the age group of 60-79 years were selected through interviews and questionnaires. Bright white light 8500 lux and dim red < 10 lux for one hour per day were administered at three times such as morning, mid-wake and evening. The research concluded that there was overall improvement in level of depression of 16 % (Loving, Kripke, Elliott, Knickerbocker & Grandner, 2005).

A randomized double blind controlled trial was conducted to test the efficacy of bright light therapy as an adjunct to antidepressant in patients with non seasonal major depression. Sample of 102 patients were selected using Major depression inventory, psychological wellbeing scale and symptom checklist. White bright light 10,000 lux one hour per day and red dim light 50 lux 30 minutes per day was administered for five weeks. All patients received sertraline 50 mg per day. Difference was greatest in bright light group. The research concluded as the bright light can be used as an adjunct treatment of non seasonal depression (Martiny, Lunde, Unden, Dam& Bech, 2005).

A meta analysis of randomized controlled trial conducted to assess the evidence base for the efficacy of light therapy in treating mood disorders. The study stated that bright light therapy reduced the severity of depression (Effect size of 0.84, Confidence interval is 0.6 to 1.08) and dawn simulation in seasonal affective disorder (Effect size 0.73, Confidence interval 0.37 to 1.08) and bright light therapy for non seasonal depression (Effect size 0.53, Confidence interval 0.18 to 0.89). Bright light therapy used as complementary to antidepressant therapy for non seasonal depression was effective

with equal effect size to antidepressant trials. The researcher recommended that standard approaches such as defining parameters of active versus placebo conditions incorporating rigorous designs such as adequate group size, randomized assignments were needed (Gldoen, 2003).

A randomized controlled trial was conducted to explore the morning light therapy for ante partum depression. Sixteen pregnant women with major depression were selected using the Hamilton Depression Rating Scale Seasonal Affective disorders version. A-B-A research design was used. The study was conducted for three weeks with 10000 lux intensified ultraviolet screened diffuse white fluroscent light source for one hour per day. After three weeks of therapy, depression ratings improved by 49 %. There were no adverse effects of light therapy. The improvement between weeks 0 and 3: t=6.27, df=15, P=<0.001. Between the weeks 1 and 3: t=4.76, df=15, P=<0.005. The research was concluded as light therapy has an antidepressant effect during pregnancy (Oren, 2002).

METHODOLOGY

The present study was designed to evaluate the effectiveness of light therapy for depressive patient. The research design is important step in research, as it is close to the overall framework for conducting study. This chapter deals with the description of the research approach, design, setting, population, criteria for sample selection, sampling technique, development and description of tools, procedure for data collection and plan for data analysis.

3.1. RESEARCH APPROACH

The present study was aimed at determining the effectiveness of Light therapy on depression among depressive client. Quantitative research approach was used to find out the effectiveness of light therapy.

3.2. RESEARCH DESIGN

TABLE 3.1.
CLIENTS WITH DEPRESSION UNDERWENT TREATMENT AT OUTPATIENT DEPARTMENT

Sample No	Age	Sex	Score	Level of depression	Reason for exclusion
1.	39 years	Female	8	Mild depression	Mild depression
2.	45 years	Male	34	Severe depression	History of eye surgery
3.	26 years	Male	21	Severe depression	Not willing
4.	28 years	Female	31	Moderate depression	Photophobia
5.	52 years	Male	23	Mild depression	Bipolar episode

Sample No	Age	Sex	Score	Level of depression	Reason for exclusion
6.	33 years	Female	12	Moderate depression	Cataract
7.	45 years	Male	20	Moderate depression	Not willing
8.	19 years	Female	15	Severe depression	Mixed anxiety and depression
9.	49 years	Female	46	Mild depression	Mild depression
10.	40 years	Female	10	Moderate depression	History of eye surgery
11.	38 years	Female	2	Moderate depression	Photophobia
12.	51 years	Male	8	Moderate depression	Mixed anxiety and depression
13.	31 years	Female	24	Mild depression	Mild depression
14.	23 years	Female	21	Mild depression	Mild depression

The above cited samples were excluded from the study due to the reasons mentioned above. During the data collection period, there was only one sample met the inclusion criteria. Hence, the sample was selected and the efficacy of light therapy was tested through a close observation as an experimental work. N = 1 research design was found to be appropriate to conduct the study. Hence, single subject experimental design (A-B-A design) was adopted to attain the objectives of the study.

3.3. SETTING

The study was conducted at female Psychiatry ward in Coimbatore Medical College Hospital, Coimbatore. The ward comprises 15 beds with adequate manpower to render mental health service.

3.4. POPULATION

3.4.1. Population

The accessible population was patient admitted with depression in male or female Psychiatry ward.

3.5. CRITERIA FOR SAMPLE SELECTION

Inclusion Criteria

The patients included for the present study was based on DSM IV criteria for depression.

DSM IV Diagnostic criteria

A. Five or more of the following symptoms have been present for consecutive 2 week period and represent a change from previous functioning; atleast one of the symptoms is either depressed mood or loss of attention or pleasure.
    1. Depressed mood most of the day, nearly every day, as indicated by either subjective report or observation made by others.
    2. Marked diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day.
    3. Significant weight loss when not dieting or weight gains.
    4. Insomnia or hyper somnia nearly every day.
    5. Psychomotor agitation or retardation nearly every day.
    6. Fatigue or loss of energy nearly every day.
    7. Feelings of worthlessness or excessive or inappropriate guilt nearly every day.

8. Diminished ability to think or concentrate or indecisiveness nearly every day.
9. Recurrent thoughts of death, recurrent suicidal ideation without a specific plan, or a suicidal attempt or a specific plan for committing suicide.

B. There has never been a manic episode, a mixed episode, or a hypo manic episode that was not substance or treatment induced or caused by the direct physiological effects of a general medical condition.

C. The symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.

D. The symptoms are not due to the direct physiological effects of a substance or a general medical condition.

E. The symptoms are not better accounted for by bereavement.

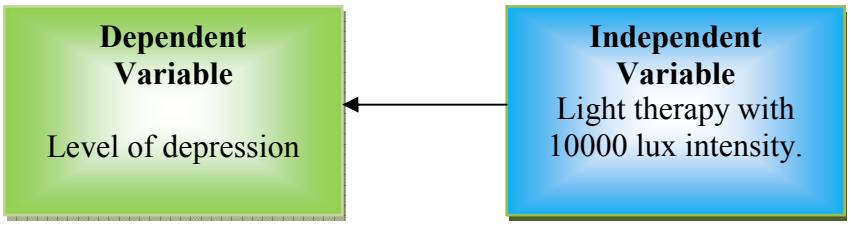
Exclusion Criteria

1. Patient with Bipolar affective disorder.
2. Patient with Visual disturbances
3. Patient with mixed anxiety depressive disorder
4. Patient not willing to participate.

3.6. SAMPLING

Purposive sample of one female patient with depression who met the inclusion criteria was included for the study.

3.7. VARIABLES OF THE STUDY



3.8. MATERIALS

Materials were used for data collection consists of 3 sections

Section A: Demographic data

Section B: Hamilton Rating Scale (Max Hamilton, 1966)

Section C: Light therapy for depression

Section A: Demographic data : include age, sex, education, occupation, income, breadwinner of the family, type of the family, family history of depression, social support, medical illness, number of dependent.

Section B: Hamilton Rating Scale for Depression : The Hamilton Rating Scale for Depression, also known as the Hamilton Depression Rating Scale (HDRS) or abbreviated to HAM-D, is a multiple choice questionnaire which has 21 items that health care professionals may use to rate the severity of a patient's major depression. Max Hamilton originally published the scale in 1960, later it reviewed and evaluated.

Administration

The scale was administered by the researcher. Each question was read by the researcher and patient responded according to the question. And the responses were noted down.

Scoring :

Each question has between 3-5 possible responses which are arranged in the order of severity. HAM-D score interpretation for level of depression as follows

Score	Level of depression
0-6	Normal
7-17	Mild
18-24	Moderate
More than 24	Severe depression

Score ranging from 0 to 53

Validity and Reliability :

Internal reliability (Cronbach's alpha) of the total Hamilton depression scale estimates range from 0.46 to 0.97. Inter rater reliability is 0.82 to 0.98. Inter class reliability is 0.46 to 0.99. Test retest is 0.70 to 0.72. Validity is adequate (Pearson's 'r' value is 0.50), Criterion validity is 0.84 to 0.90, Convergent validity is 0.50 to 0.90 and Discriminant validity is 0.45 (Vancour, 2003).

Section C: Light Therapy : Light therapy was first used in early 1980's to treat seasonal affective disorder. It reduces the level of depression as it enhances the secretion of serotonin. Patients can be treated with light therapy with minimal side effects.

Preparation of the Patient and Article

1. The light box should be positioned approximately 12-24 inches (30-60 cm) from the client's face and should be fixed at 30-45 degree angle like sunlight coming in a window.
2. From the light box, light beam must be directed at the client's eyes, and the eyes must be open.
3. Connect the light box with power source.

Procedure

Step 1 : Make the patient to sit in front of the box so that light can enter into the eyes.

Step 2: The client may read, write and eat.

Step 3: Instruct the client not to stare at the light box. It is not harmful to glance at the light box occasionally.

Step 4: Disconnect the light box from power source.

Step 5: Assist the patient to go to bed.

3.9. HYPOTHESIS

There is a significant decrease in the level of depression among the depressive patient after light therapy.

3.10. PILOT STUDY

The pilot study was conducted to check the feasibility, practicability, validity and reliability of the tool. The study was conducted in male Psychiatry ward of Coimbatore

Medical College Hospital, Coimbatore for the period of 10 days from 14.3.11 to 23.3.11. One client who fulfilled the sampling criteria was selected for the study. Light therapy was administered for 30 minutes per day. Post test was administered on 8th day. There was the significant difference in pretest and post test score.

3.11. MAIN STUDY

The data was collected for a period of 30 days. The study was conducted in Coimbatore medical college hospital, Coimbatore from June 6 to July 5. The research design selected for the study was Single subject experimental design. One sample was selected through purposive sampling technique. Pre test was done using Hamilton rating scale for depression. One female patient who met the criteria of depression was selected for the study. The patient was explained about the procedure and written consent was obtained from the family members. Rapport was developed and maintained throughout the intervention. Base line data was assessed using Hamilton rating scale for depression for three times with 30 minutes interval, after that Light therapy was administered for 30 minutes and again base line data was reassessed with 30 minutes interval. The client was not exposed to any other interventions such as medications, counseling and psycho education.

3.12. PLAN OF DATA ANALYSIS

Inferential (Paired ‘t’ test) statistics was adopted to analyze the data. Paired ‘t’ test was used to analyze the effect of light therapy on depression.

DATA ANALYSIS AND INTERPRETATION

This chapter represents the method of analysis and interpretation of the data. The study was conducted to find out the effect of light therapy on depression. Data was collected from a single sample. The findings were analysed and interpreted in this chapter. The data was analysed using descriptive and inferential statistics.

SECTION – I

It consists of the information on

4.1. Baseline data

4.2. Ongoing assessment of depressive symptoms

4.1. BASELINE DATA

Demographic Profile

Age	:	39 years
Sex	:	Female
Education	:	10^{th} standard
Occupation	:	Nil
Income	:	Nil
Bread winner	:	Husband
Type of the family	:	Nuclear
Family history of depression	:	Nil
Social support	:	Present
Associated Medical illness	:	Nil
Number of dependent	:	Nil

TABLE 4.1.
ONGOING ASSESSMENT OF DEPRESSIVE SYMPTOMS

The following table comprises of certain areas of assessment denoting depressive symptoms.

AREA OF ASSESSMENT	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5	DAY 6	DAY 7
Mood	Depressed	Depressed	Depressed	Depressed	Normal	Normal	Pleasant
Sleep Pattern	Slept only for ½ an hour	Slept only for ½ an hour	Slept only for ½ an hour	Slept for 2 hours	Slept for 2 hours	Slept for an hour	Slept for 4 hours
Appetite	Anorexia. Consumed one meal / day with compulsion	Anorexia. Consumed one meal / day with compulsion	Consumed One meal per day with compulsion	Consumed 2 meals per day with compulsion	Consumed 2 meals per day with compulsion	Consumed 2 meals per day with compulsion	Consumed 2 meals per day with compulsion
Grooming	Shabbily groomed	Shabbily groomed	Shabbily groomed	Shabbily groomed	Shabbily groomed	Well groomed	Well groomed
Psychomotor activity	Increased Psychomotor activity	Slight restlessness	Normal	Normal	Normal	Normal	Normal
Suicidal ideation	Present	Present	Present	Present	Absent	Absent	Absent
Somatic symptoms	Head ache, palpitation, indigestion present	Head ache, palpitation, indigestion present	Head ache, indigestion present	Head ache, indigestion present	Mild head ache, indigestion	Mild head ache, indigestion	Mild head ache, indigestion

Table 4.1 reveals that the mood of the patient came to the level of normal on 5th day. The sleep pattern is improved from half-an hour to four hours on 7th day. Grooming is improved on 6th day. Psychomotor activity is normal on 3rd day. Suicidal ideation is absent on 6th day.

SECTION – II

The data collected at each interval before and after light therapy were tabulated and paired 't' test was used to analyze the effectiveness of light therapy.

TABLE 4.2.
COMPARISION OF DEPRESSION BEFORE AND AFTER LIGHT THERAPY

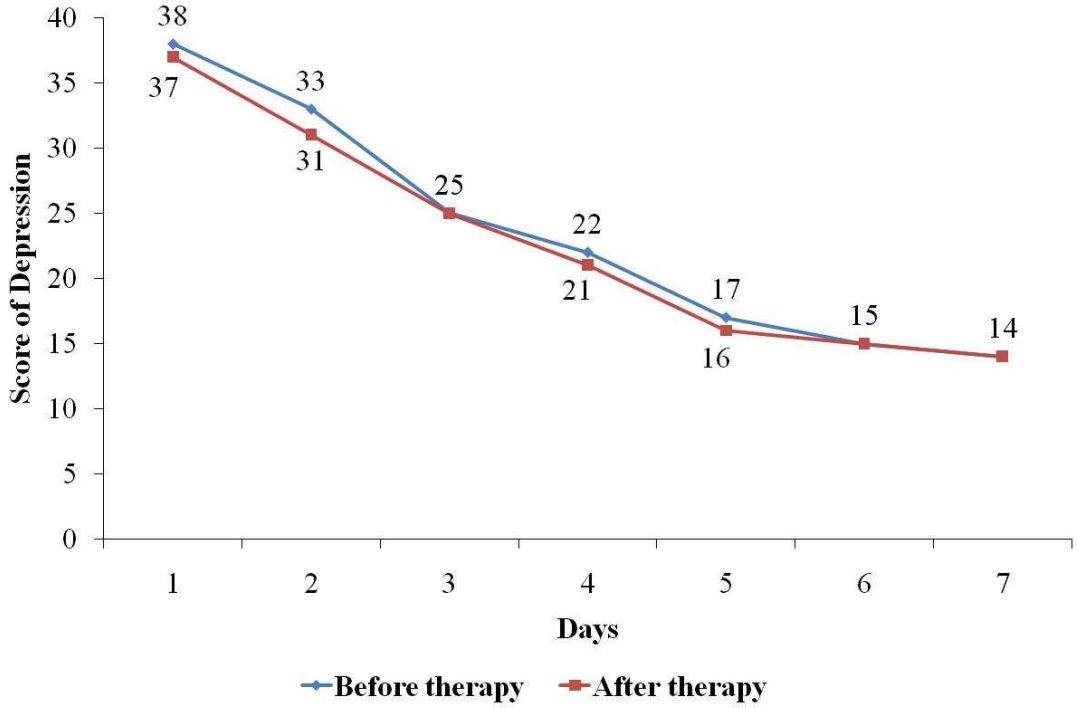
	Mean	S.D.	Mean %	Mean Difference	't'
Before therapy	23.57	8.55	44.47	0.86	3.445*
After therapy	22.71	8.11	42.85		

*Significant at 0.05 level

The table shows that the calculated mean and respective standard deviation of depression obtained before and after implementation of light therapy to the depressive client. The data shows that from a mean score of 23.57, the score decreased to 22.71 with a mean different of 0.86.

Paired 't' test was used to analyze the effectiveness of light therapy. The calculated 't' value 3.445 was greater than the table value (1.943) at 6 degree of freedom at 0.05 level of significance. Thus the difference is statistically significant. Hence, the hypothesis **"There is a significant decrease in the level of depression after light therapy"** is accepted. It confirms that light therapy was effective in reducing the level of depression among depressive client.

FIG. 4.1.
LEVEL OF DEPRESSION BEFORE AND AFTER LIGHT THERAPY



RESULTS AND DISCUSSION

The study was conducted in Coimbatore Medical College Hospital, Coimbatore. The main focus of the study was to examine the effect of light therapy on depression among hospitalized depressive client. The base line data was assessed three times before the intervention and one time after the intervention. The present chapter reveals the results and discussion in detail. The analysed data is discussed under various sections.

5.1. FINDINGS RELATED TO LEVEL OF DEPRESSION

TABLE 5.1.
BASELINE DATA BEFORE LIGHT THERAPY

The following table comprises of data collected before the intervention with half an hour interval.

DAYS	BASELINE DATA		
	1	2	3
DAY 1	38	38	37
DAY 2	33	33	33
DAY 3	25	26	25
DAY 4	22	21	21
DAY 5	17	16	15
DAY 6	15	16	16
DAY 7	14	14	14

On analysing the baseline data from day 1 to day 7, clearly shows that the level of depression gradually decreased which is cited in Table No.5.1. In the before interventional condition, the baseline assessment was conducted to determine the consistency of the scores. Hamilton Rating Scale for Depression reveals that the

baseline data obtained in the consecutive three trials of baseline assessment are maintained with consistent data, though there was a minimal difference in the trials conducted in each day.

Intervention aimed at reducing the level of depression with the period of sevendays was achieved. This was achieved through selecting the appropriate research design cited in Chapter – III, clearly depicts that the baseline data collection is mandatory with three consecutive trials with 30 minutes of interval.

This confirms the baseline is being consistent and also to identify the carry over effect of the intervention.

TABLE 5.2.
BASELINE DATA AFTER LIGHT THERAPY

The following table comprises of data collected after light therapy with 30 minutes interval.

DAYS	BASELINE DATA
DAY 1	37
DAY 2	31
DAY 3	25
DAY 4	21
DAY 5	16
DAY 6	15
DAY 7	14

On analysing the baseline data after interventional condition reveals that the scores gradually decreased and transmitted from severe level to mild level of depression. This distinctly shows that bright light therapy has influenced in decreasing the level of depression of the subject herein study.

This has been verified through the analysis made with the data of before and after interventional conditions. This has been cited in the Table No.4.2.which reveals the mean score of depression before light therapy was found to be 23.57 which is higher than the depression score after light therapy which is 22.71 and 't' value is significant at the 0.05 level. Hence, the hypothesis, **"There is a significant decrease in the level of depression after light therapy"** is accepted.

The result obtained in the present study is in line with the study conducted by Lande, Williams, Gragna & Albert (2011), Liverse (2011), Corrol, Wardrop, Zhang, Grewal & Pattson (2007), Loving, Kripke, Elliott, Knickerbocker & Grandner (2005), Martiny, Lunde, Unden, Dam & Bech (2005), Golden (2003) & Oren (2002).

Contrary to the results cited in the above studies, an experimental study conducted by Kripke & Tuuanine (2004) depicts that light therapy was found to be effective in reducing the level of depression but it also revealed adverse effect.

As the present researcher administered high intensity bright white light with 10,000 lux for the duration of only seven days, it enhanced adequate amount of serotonin which helps to reduce the level of depression from severe to mildlevel.

SUMMARY AND CONCLUSION

This chapter summarizes the major findings, limitations, recommendations and implications in the field of nursing education, practice, administration and nursing research.

This study was conducted with the objective to find out the effectiveness of light therapy on depression among depressive patient. Light therapy increases the level of serotonin so that it reduces the level of depression. Initially the patients who came to the hospital with depression were assessed for the level of depression using Hamilton Rating Scale for Depression and who fulfill the sampling criteria of severe depression was selected as sample. Patient and care giver were explained about the procedure and written consent was obtained. Prior to the intervention Base line data was assessed for three times with half an hour interval to check the consistency of base line data (level of depression). Light therapy was administered by the researcher for 30 minutes in a day for seven consecutive days. Base line level was reassessed after 30 minutes interval of light therapy.

The conceptual framework of this study was based upon Widenbach's helping art theory. A quantitative research approach has been used for the study. Review of literature brought at many facts of depression, light therapy and light therapy on depression.

This study was conducted at Coimbatore Medical College Hospital, Coimbatore. Single subject experimental design was adopted for the study. Purposive sample of one subject was recruited for the study. The data analysis was done by

using inferential statistics. This study finding indicates that administration of light therapy reduces the level of depression.

6.1. MAJOR FINDINGS OF THE STUDY

1. The level of depression was found to be greater among depressive patient before the administration of light therapy.
2. The level of depression was found to be lesser among depressive patient after the administration of light therapy.
3. Ongoing assessment reveals that mood, sleep pattern, grooming and psychomotor activity were improved. Patient was relieved from suicidal ideation.

6.2. LIMITATIONS

1. The study was limited to one setting only.
2. As the research design is single subject experimental design, findings can not be generalized.
3. Intervention of this study was administered only for seven days.

6.3. RECOMMENDATIONS

1. The study can be conducted by using other research design, it can be replicated with a larger sample size to generalize the findings.
2. The study can be conducted in different setting.
3. A follow- up study can be undertaken to determine the level of depression after the cessation of light therapy
4. A comparative study can be undertaken between light therapy group and antidepressant group.

5. Staff nurses can be reinforced to implement light therapy as a complementary therapy for depression.

6.4. NURSING IMPLICATIONS

6.4.1. Nursing Education

Light therapy is a complementary therapy. Nurses can be taught about benefits and administration of light therapy since it does not require wide knowledge and practice. Care takers also can be taught how to use light box at the home.

6.4.2. Nursing Administration

The nurse administrator can draw written policies regarding light therapy for the management of depression. There by the staff nurses are kept in pace with the evidence based practice.

6.4.3. Nursing Practice

Light therapy helps in the management of depression among depressive patients. So it can be used as a complementary therapy along with antidepressants in clinical and community settings.

6.4.4. Nursing Research

The study has tested the effect of light therapy on depression among depressive adult client. Same research can be carried out with the sample of pregnant mother, Lactating mother and Children with Depression.

6.5. CONCLUSION

The study was conducted to find the effect of light therapy on depression among depressive client. Mean percentage of depression score has decreased from 44.47 to 42.85 that was significant. Hence, the intervention was effective in reducing the level of depression.

References

Angehrn, M. F. (2009). Treatment Observation of Red Light Therapy for Skin, Retrieved on 20.8.11 from http://www.light-sources.com/collagen/applications/treatment-observation-red-light-therapy-skin.

Bernard, J. (2004). Research Reports that Bright Light Therapy can be very Effective for Depression in Older Adults, Retrieved on 24.3.11 from http://ezinearticles.com/?Researchreports-that-bright-light-therapy-can-be-very-effective-for-depression-in-older-adults&id=5710114.

Bernard, K., Skinner, T. C., & Peveeler, R. (2006). The Prevalence of Co-Morbid Depression in Adults with Type I Diabetes; Systemic Literature Review. *Diabetes Medicine*. April 23(4):445-448. Retrieved on 18.11.11 from http://www.ncbi.nlm.nih.gov/pubmed/16620276.

Byrne, J. W. (2009). Insight in Individuals and its Relationship with the Experience of Depression in a Forensic Population. Retrieved on 16.8.11 from http://www.grin.com/en/doc/277797/insight-in-individual-and-its-relationship-with-the experience-of-depression

Caruso, K. (2010). Depression. Retrieved on 4.1.11 from www.cnsindia.com/depression/medical-professional/first-glance/fundamentals.htm

Copley, J. (2008). Light Therapy for Non Seasonal Depression. Retrieved on 30.9.11 from http:// Jennifercopley.suite601.com/lighttherapy-for-nonseasonal-depression-a66951

Corral, M., Wardrop, A. A., Zhang, H., Grewal, A. K., & Pattson, S. (2007). Morning Light Therapy for Postpartum Depression. *Archives of Women's Mental Health*. 10 (5), 221-224, Retrieved on 22.9.2011 from http://www.ncbi.nlm.nih.gov/pubmed/17701271

Daansen, P. J., & Haffmans, R. (2010). Reducing Symptoms in Women with Chronic Anorexia Nervosa - A Pilot Study on the Effects of Bright Light Therapy. *Neuro Endocrinal Letter*, Retrieved on 22.9.11 from http://www.ncbi.nlm.nih.gov/2058823.

Franklin, D. J. (2011). Depression. Retrieved on 9.12.11 from http://www.psychologyinfo.com/depression

Golden, R. N. et al., (2003). The Efficacy of Light Therapy in the Treatment of Mood Disorders: A Review & Meta Analysis of the Evidence, *American Journal of Psychiatry*. Retrieved on 21.8.11 from http://ajp.psychiatryonline.org/cgi/content/full/162/4/656?ijkey=f5f42707286a4d037d77013be9c4afd320c628

Grover, S., Dutt, A., & Avashi, A. (2010). An Overview of Indian Research in Depression. Retrieved on 20.10.10 from http://www.indianpsychiatry.org/article.asp?issn=0019

Gupta, R. et al., (2010). Depression and HIV in Botswana: A Population Based Study on Gender Specific Socio Economic & Behavioral Correlates. *Plos one*, Retrieved on 8.6.10 from http://uppersaucon.patch.com/articles/facebook-depressionagrowing-problemfor-teens4

Hamilton, M. (1960). A Rating Scale for Depression. *Journal of Neuro Neurosurg Psychiatry*, 23:56–62, Retrieved on 27.02.2011from doi:2392613897.

Hasin, D. S., Goodwin, R. D., Stinson, F. S. & Grant. (2005). Epidemiology of Major Depressive Disorder, *Archives of General Psychiatry*, vol-62, no-10. Oct 2005, Retrieved on 18.11.11 from http://archpsych.ama-assn.org/cgi/content/abstract/62/10/1097

Howland, R. H. (2007). Therapeutic Armamentarium for Treating Depression, Retrieved on 6.8.10 from http://www.ncbi.nlm.nih.gov/pubmed/20675972

Levitt, A. J., Lam, R.W. & Levitan, R. (2002). Comparison of Open Treatment of Seasonal Major and Minor Depression with Light. *Affective Disorders,* 71, sep 2002, p.p: 243-248. Retrieved on 20.8.11 from http://www.litebook.com/research/displayresearch.asp?id=44&types=t

Lewy, A. J. (1980). Light Therapy. Retrieved on 24.10.10 from http://www.holisticonline.com/light-therapy/light-intro.html

Liverse, R. et al., (2011). Bright Light Treatment in Elderly Patients with Non Seasonal Major Depressive Disorder - A Randomized Placebo Controlled Trial. *Archives of General Psychiatry*, vol 68, No: 1, Jan 2011, p.p :61-70, Retrieved on 21.8.11 from http://archpsych.ama.assn.org/cgi/content/abstract/68/1/61

Loving, R .T., Kripke, D. F., Knickerbocker, N. C. & Grandner, M. A. (2005). Bright Green Light Treatment of Depression for Older Adults. *British Medical Council Psychiatry.* Nov 9: 5:42. Retrieved on 22.9.11 from http://www.ncbi.nlm.nih.gov/pubmed/16283926

Martiny, K ., Lunde, M., Unden, M., Dam, H. & Bech, P. (2005). The Lack of Sustained Effect of Bright Light, after Discontinuation, in Non Seasonal Major Depression. *Psychological Medicine,* Retrieved on 22.9.11 from http://www.ncbi.nlm.nih.gov/pubmed/1675669

McDougall, F. A., Mathew, F. E., Kvaal, K., Dewey, M. E. & Brayne, C. (2007). Prevalence & Symptomatology of Depression in Older People Living in Institutions in England & Wales, *Oxford Journal.* Retrieved on 18.11.11 from http://ageing.oxfordjournals.org/content/36/5/562full.

Meesters, Y., Dekker, V., Schlangen, L. J., Bos, E. H. & Ruiter, M. J. (2011). Low Intensity Blue- Enriched White Lux & Standard Bright Light are Equally Effective in Treating SAD. A Randomized Controlled Trial. *British Medical Council Psychiatry,* Jan 28:11:17. Retrieved on 22.9.11 from http://www.ncbi.nlm.nih.gov/pubmed/21276222.

Moscovici, L. (2006). Bright Light Therapy for SAD in Israel: A single case placebo-controlled study, *Acta Psychiatric Scand*, Retrieved on 21.9.11 from http://www.ncbi.nlm.nih.gov/pubmed/16889593

National Alliance on Mental Illness. (2011). Angry Asian Man. Retrieved on 4.1.11 from http://blog.angryasianman.com/2011/02/asian-american-teenage-girls-have-html.

National Health Survey. (2007). Statistics on Depression, Retrieved on 10.6.10 from http://www.upliftprogramme.com/depression-stats.html

Nehru. (2010). Depression on Indian perspective, Retrieved on 10.6.10 from http://www.depression.indiaonline.com.

Oren, D. A., et al., (2002). An Open Trial of Morning Light Therapy for Treatment of Antepartum Depression, *American Journal of Psychiatry,* April 2002, 159, 666-669, Retrieved on 22.8.11 from http://ajp.psychiatryonline.org/cgi/content/abstract/159/4/666.

Pandey, K. (2010). Light Therapy for Depression. Retrieved on 29.8.11 from http://www.buzzle.com/articles/light-therapy-for-depression.html

Philip. (2009). Light Therapy. Retrieved on 10.6.10 from http://www.lighttherapy.com.an

Prasko, J. et al., (2010). Augmentation of Antidepressants with Bright Light Therapy in Patients with Patients with Co Morbid Depression and Borderline Personality Disorder, *Neuro Endocrinal Letter,* Retrieved on 22.9.11from http://www.ncbi.nlm.nih.gov/pubmed/17701271

Ryback, Y. E., Mcveely, H. E., Mackenzie, B. E., Jain, U. R. & Levitan, R. D. (2006). An Open Trial of Light Therapy in Adult ADHD, *Journal of Clinical Psychiatry*, Oct 2006, 67(10), 1527-35. Retrieved on 22.9.11 from http://www.ncbi.nlm.nih.gov/pubmed/17107243

Schumacher, M., Zubaran, C. & White, G. (2008). Bringing Birth Related Paternal Depression to the Fore, *Women Birth.* 2008, June 21(2), 65-70, Retrieved on 8.7.11 from http://www.ncbi.nlm.nih.gov/pubmed/18479990

Singh, R. K. (2010). Symptoms of Depression, Retrieved on 8.6.11 from http://www.lifepositive.com/Mind/psychology/stress/symptomsofdepression.a

Terman, M. (2006). Disorders Beyond SAD, *CNS Spectrum*, Retrieved on 1.8.10 from http://depression.about.com/od/sad/a/beyondsad.htm

Thomson, J. (2011). 24X7 Helpline, Retrieved on 4.1.12 from http:// www.aasra.info/articlesandatatistics.html.

Tuunainen, Kripke. & Endo. (2004). Light Therapy for Non-Seasonal Depression. Retrieved on 21.8.11 from http://www.cochrane.org/reviews/en/ab004050

Ugarriza. (1995). A Descriptive Study of Postpartum Depression. *Perspective Psychiatric Care.* 1995, Jul-sep 31(3), p.p: 25-9, Retrieved on 16.8.11 from http://www.ncbi.nlm.nih.gov/pubmed/7659496.

Vancouver, B. C. (2003). A Structured Interview Guide for the Hamilton Depression Rating Scale, *Archives of General Psychiatry*, 45(8), p.p; 742-747, Retrieved on 27.10.10 from doi: 2392613897.

Wesley. (1994). Widenbach's Helping Art Clinical Nursing Theory, Retrieved on 22.6.11 from http://currentnursing.com/nursing.theory/

WHO. (1990). Mental Health. Retrieved on 7.5.11 from http://www.who.int/mental-health/management/depression/definition/enReview

Youngstedt, S. D., Kline, C. E., Gnisberg, J. P., Zielinski, M. R. & Hardin, J. W. (2011). Bright Light Treatment for High Anxious Young Adults: a Randomized Controlled Pilot Study. *Depression Anxiety.* Apr 28 (4):324-32, Retrieved on 22.9.11 from http://www.ncbi.nlm.nih.gov/pubmed/21254315

APPENDIX – I
LETTER REQUESTING FOR PERMISSION TO CONDUCT THE STUDY

From

S.Priya,
M.Sc.Nursing I year,
College of Nursing,
Sri Ramakrishna Institute of Paramedical Sciences,
Coimbatore -44

To

The Head of the Department,
Department of Psychiatric Medicine,
Coimbatore Medical College Hospital,
Coimbatore .

Through

The Principal,
College of Nursing,
Sri Ramakrishna Institute of Paramedical Sciences,
Coimbatore -44.

Sub:Letter : Requesting permission for conducting the research study.

Respected Sir,

I S.Priya doing my M.Sc(N) I year in college of Nursing, SRIPMS, as a part of my curriculum requirement under Dr.M.G.R. Medical University has to conduct Research. I have selected study on **LIGHT THERAPY ON DEPRESSION AMONG DEPRESSIVE PATIENTS AT PSYCHIATRIC WARD IN COIMBATORE MEDICAL COLLEGE HOSPITAL, COIMBATORE.**

I kindly request you to grant me permission to conduct research in your hospital.I assure that I will abide by the rules of the institution and information collected from the study participants will not be disclosed.

Thanking you

K. Ramathilag
PRINCIPAL
College of Nursing,
Sri Ramakrishna Institute of Paramedical Sciences
Coimbatore - 641 044.

Yours faithfully

S.Priya

Place
Date

3 copies

APPENDIX – II
LETTER GRANT THE PERMISSION TO CONDUCT THE STUDY

Ref :1860/E7/2011

Office of Medical Superintendent,
Coimbatore Medical College Hospital,
Coimbatore :18
Date:11.03.2011

Sir,

Sub : Coimbatore Medical College Hospital, Coimbatore, permission to utilize the training for Psychiatry Department permission order issued – reg.

Ref : 1. Principal, College of Nursing, Sri Ramakrishna Institute of Paramedical Science, Coimbatore 44 Letter 21.07.2010
2. G.O(D) No.648 Health & Family Welfare (MCA1) dept Dt :02.06.2009
3. Letter Ref No:14252/ME1/1/2008 dt 18.06.2009 of Director of Medical Education, Chennai:10

As per the G.O 2nd cited, Ms. Priya S. are permitted to conduct Project work in Psychiatry **Department**, Coimbatore Medical College Hospital, Coimbatore18 without the detrimental of the normal function of this hospital.

Necessary fees for the above training Rs.6000/- (Rupees Six thousand only) per trainee should be remitted at Treasury, Coimbatore in the following head of account and the copy of Chelan to be produced to this office at the time of admission to training.

Head of Account:

"2210-Medical and Public Health-01 Urban health Service-301 Services and fees collection of payment for services rendered-2-Director of Medical Education, Chennai-10"

You are also requested to contact the HOD Psychiatry Department regarding the training dates.

The data / statistics collected should not published / display/or circulate to press under any circumstances without permission of the undersigned.

Medical Superintendent i/c

To
1. The Principal, College of Nursing,
Sri Ramakrishna Insitute of Paramedical Science,
Coimbatore : 641 044,

2. Ms. S.Priya M.Sc Nursing I year,
Sri Ramakrishna Institute of Paramedical Sciences,
Coimbatore : 641 044.

Copy to
1.Prof. and HOD of Psychiatry Department,
Coimbatore Medical College Hospital, Coimbatore
He is requested to permit the above persons only after remittance of the Prescribed fees.
2.Resident Medical Officer,
Coimbatore Medical College Hospital, Coimbatore
3.Director of Medical Education, Kilpauk, Chennai: 10

APPENDIX –III
LETTER REQUESTING TO VALIDATE THE RESEARCH TOOL AND CONTENT

From
Mrs. S. Priya
M.Sc Nursing I Year,
College of Nursing,
Sri Ramakrishna Institute of Paramedical Sciences,
Coimbatore – 44.

To
Dr. Marikannan,
Asst. Professor,
Department of Psychiatry Medicine,
Coimbatore Medical College Hospital,
Coimbatore.

Through
The Principal,
College of Nursing,
Sri Ramakrishna Institute of Paramedical Sciences,
Coimbatore – 44.

Sub: Requisition for content validity

Respected Madam,

I, Mrs. S. Priya, doing my M.Sc Nursing I year in College of Nursing, Sri Ramakrishna Institute of Paramedical Sciences, as a part of my curriculum requirement under the Tamilnadu Dr. M.G.R. Medical University has to conduct Research. I have selected study on **"EFFECTIVENESS OF LIGHT THERAPY ON DEPRESSION AMONG DEPRESSIVE PATIENTS AT SELECTED PSYCHIATRIC WARD IN COIMBATORE MEDICAL COLLEGE HOSPITAL, COIMBATORE.**

I sincerely request to extend your guidance for my content validity.

Thanking you,

Yours faithfully,

S. Priya
Mrs.Priya

Coimbatore
Date:

THE PRINCIPAL
College of Nursing
Sri Ramakrishna Institute of Paramedical Sciences
Coimbatore - 641 004.

FORMAT FOR CONTENT VALIDITY

Name of the expert: ச. ஜீவகாருண்யன்.

Address: ச. ஜீவகாருண்யன்.
தமிழ் ஆசிரியை
ஸ்ரீராமகிருஷ்ணா மெட்ரிக் மேல்நிலைப்பள்ளி
கோவை.

Kindly validate each tool and tick wherever applicable

S.No	Sections of the tool	Strongly agree	Agree	Needs modification	Remarks
1 .	SECTION A	✓			
2	SECTION B	✓			

Total content for the tool : Adequate /Inadequate

Date:

Signature of the expert

FORMAT FOR CONTENT VALIDITY

Name of the expert: Dr. MARIKANNAN,

Address: ASSISTANT PROFESSOR,
DEPARTMENT OF PSYCHIATRIC MEDICINE,
COIMBATORE MEDICAL COLLEGE HOSPITAL,
COIMBATORE

Kindly validate each tool and tick wherever applicable

S.No	Sections of the tool	Strongly agree	Agree	Needs modification	Remarks
1 .	SECTION A		✓		
2	SECTION B		✓		
3	SECTION C		✓		

Total content for the tool : Adequate ✓ /Inadequate

Date: 10/11/16

Signature of the expert

FORMAT FOR CONTENT VALIDITY

Name of the expert:

Address:

Dr. C. Balakrishna Murthy Ph.D.,
Assistant Professor & Principal Investigator
UGC Major Research Project,
Department of Psychology,
PSG COLLEGE OF ARTS AND SCIENCE
Coimbatore - 641 014

Kindly validate each tool and tick wherever applicable

S.No	Sections of the tool	Strongly agree	Agree	Needs modification	Remarks
1 .	SECTION A	✓			
2	SECTION B	✓			
3	SECTION C	✓			

Total content for the tool : Adequate /Inadequate

Date: 10.4.2011

Signature of the expert

FORMAT FOR CONTENT VALIDITY

Name of the expert: Mrs. Esther Daisy Joel.

Address: Professor,
Head of the department,
Department of mental health (Psychiatric) Nursing.
P.S.G. College of Nursing, Coimbatore.

Kindly validate each tool and tick wherever applicable

S.No	Sections of the tool	Strongly agree	Agree	Needs modification	Remarks
1	SECTION A		✓		
2	SECTION B		✓		
3	SECTION C		✓		

Total content for the tool : Adequate /Inadequate

Date: 6/6/11

Signature of the expert

FORMAT FOR CONTENT VALIDITY

Name of the expert: Mrs. R. Tamil Selvi.

Address: KG College of Nursing.
KG Hospital
Arts College Road.
Coimbatore -18

Kindly validate each tool and tick wherever applicable

S.No	Sections of the tool	Strongly agree	Agree	Needs modification	Remarks
1.	SECTION A		✓	–	
2	SECTION B		✓	–	
3	SECTION C		✓	–	

Total content for the tool : ✓ Adequate /Inadequate

Date: 23/03/2011.

Signature of the expert.

From
Mrs. S. Priya
M.Sc Nursing I Year,
College of Nursing,
Sri Ramakrishna Institute of Paramedical Sciences,
Coimbatore – 44.

To
Dr. Balakrishnamurthy,
Asst. Professor,
Department of Psychology,
PSG College of Arts and Science,
Coimbatore.

Through
The Principal,
College of Nursing,
Sri Ramakrishna Institute of Paramedical Sciences,
Coimbatore – 44.

Sub: Requisition for content validity

Respected Madam,

I, Mrs. S. Priya, doing my M.Sc Nursing I year in College of Nursing, Sri Ramakrishna Institute of Paramedical Sciences, as a part of my curriculum requirement under the Tamilnadu Dr. M.G.R. Medical University has to conduct Research. I have selected study on "**EFFECTIVENESS OF LIGHT THERAPY ON DEPRESSION AMONG DEPRESSIVE PATIENTS AT SELECTED PSYCHIATRIC WARD IN COIMBATORE MEDICAL COLLEGE HOSPITAL, COIMBATORE.**

I sincerely request to extend your guidance for my content validity.

Thanking you,

Yours faithfully,

S. Priya
Mrs.Priya

Coimbatore
Date:

R. Ramathilagam

for THE PRINCIPAL
College of Nursing
Sri Ramakrishna Institute of Paramedical Sciences
Coimbatore-641004.

From
Mrs. S. Priya
M.Sc Nursing I Year,
College of Nursing,
Sri Ramakrishna Institute of Paramedical Sciences,
Coimbatore – 44.

To
Mrs. Esther Daisy Joel,
Professor,
Head of the Department,
Department of Psychiatric Nursing
PSG College of Nursing,
Coimbatore.

Through
The Principal,
College of Nursing,
Sri Ramakrishna Institute of Paramedical Sciences,
Coimbatore – 44.

Sub: Requisition for content validity

Respected Madam,

I, Mrs. S. Priya, doing my M.Sc Nursing I year in College of Nursing, Sri Ramakrishna Institute of Paramedical Sciences, as a part of my curriculum requirement under the Tamilnadu Dr. M.G.R. Medical University has to conduct Research. I have selected study on "**EFFECTIVENESS OF LIGHT THERAPY ON DEPRESSION AMONG DEPRESSIVE PATIENTS AT SELECTED PSYCHIATRIC WARD IN COIMBATORE MEDICAL COLLEGE HOSPITAL, COIMBATORE.**

I sincerely request to extend your guidance for my content validity.

Thanking you,

Yours faithfully,

S. Priya
Mrs.Priya

Coimbatore
Date:

R. Ramathilagam

FOR THE PRINCIPAL
College of Nursing
Sri Ramakrishna Institute of Paramedical Sciences
Coimbatore-641004.

From
Mrs .S .Priya
M.Sc Nursing I year,
College of Nursing,
Sri Ramakrishna Institute of Paramedical Sciences,
Coimbatore -44.

To

MRS. MEERA SARAVANAN,
PROFESSOR,
MENTAL HEALTH NURSING DEPARTMENT,
PSG COLLEGE OF NURSING.

Through
The Principal,
College of Nursing,
Sri Ramakrishna Institute of Paramedical Sciences,
Coimbatore -44.

Sub: Requisition for content validity

Respected Madam,

I. Mrs .S .Priya , doing my M.Sc nursing I Year in College of Nursing, Sri Ramakrishna Institute of Paramedical Sciences, as a part of my curriculum requirement under The Tamil Nadu Dr. M.G.R. Medical University has to conduct Research, I have selected study on **"EFFECTIVENESS OF LIGHT THERAPY ON DEPRESSION AMONG DEPRESSIVE PATIENTS AT SELECTED PSYCHIATRIC WARD IN COIMBATORE MEDICAL COLLEGE HOPSPITAL ,COIMBATORE**

I sincerely request to extend your guidance for my content validity.

Thanking you,

Yours faithfully,

S.Priya

Mrs.Priya

Coimbatore
Date:

R. Ramathilagam
for THE PRINCIPAL
College of Nursing
Sri Ramakrishna Institute of Paramedical Sciences
Coimbatore- 641 004.

FORMAT FOR CONTENT VALIDITY

Name of the expert: Mrs. MEERA SARAVANAN

Address: PROFESSOR,
MENTAL HEALTH (PSYCHIATRIC) NURSING,
P.S.G. COLLEGE OF NURSING,
COIMBATORE.

Kindly validate each tool and tick wherever applicable

S.No	Sections of the tool	Strongly agree	Agree	Needs modification	Remarks
1	SECTION A				
2	SECTION B				
3	SECTION C				

Total content for the tool : Adequate /Inadequate

Date:

Signature of the expert

P.S.G. COLLEGE OF NURSING
Peelamedu
COIMBATORE-4

From,
Mrs. Priya,
M.Sc Nursing I year,
College of Nursing,
Sri Ramakrishna Institute of Paramedical Sciences,
Coimbatore.

To ,

Mrs. R. Tamil Selvi.
Professor
KG College of Nursing
Saravanampatti.
Coimbatore.

Through
The Principal,
College of Nursing,
Sri Ramakrishna Institute of Paramedical Sciences,
Coimbatore -44.

Sub: Requisition for content validity

Respected Madam,

I Mrs.priya doing my M.Sc (N) I Year in College of Nursing, Sri Ramakrishna Institute of Paramedical Sciences, as a part of my curriculum requirement under The Tamil Nadu Dr. M.G.R. Medical University has to conduct Research, I have selected study on **"EFFECTIVENESS OF LIGHT THERAPY ON DEPRESSION AMONG DEPRESSIVE PATIENTS AT SELECTED PSYCHIATRIC WARD IN COIMBATORE MEDICAL COLLEGE HOSPITAL COIMBATORE.**

I sincerely request to extend your guidance for my content validity.

Thanking you,

Yours faithfully,

S. Priya

Coimbatore

Date;

R. Ramalakshmi
for THE PRINCIPAL
College of Nursing
Sri Ramakrishna Institute of Paramedical Sciences
Coimbatore-641004.

APPENDIX – IV

TOOL

Baseline data

Demographic Profile

Age	:
Sex	:
Education	:
Occupation	:
Income	:
Bread winner	:
Type of the family	:
Family history of depression	:
Social support	:
Associated Medical illness	:
Number of dependent	:

1. DEPRESSED MOOD (sadness, hopeless, helpless, worthless)

0 – Absent

1 – These feeling states indicated only on questioning.

2 – These feeling states spontaneously reported verbally .

3 – Communicates feeling states non-verbally, ie. Through facial expression, posutre, voice and tendency to weep.

4 – Patient reports virtually only these feeling states in his/her spontaneous verbal and non verbal communication.

2. FEELING OF GUILT

0 - Absent

1 – Self reproach, feels he/she has let people down.

2 – Ideas of guilt or rumination over past errors or sinful deeds.

3 – Present illness is a punishment, delusions of guilt.

4 – Hears accusatory or denunciatory voices and/or experiences threatening visual hallucinations

.

3. SUICIDE

0 - Absent

1 – Feels life is not worth living.

2 – Wishes he/she was dead or any thoughts of possible death to self.

3 – Ideas or gestures of suicide.

4 – Attempts at suicide (any serious attempt rate 4).

4. INSOMNIA: EARLY

0 – No difficulty falling asleep.

1 – Complaints of occasional difficulty falling asleep, ie. More than half an hour

2 – Complaints of nightly difficulty falling asleep.

5. INSOMNIA: MIDDLE

0 – No difficulty.

1 – Patient complaints of being restless and disturbed during the night.

2 – Waking during the night – any getting out of bed rates 2 (except for purpose of voiding).

6. INSOMNIA: LATE

0 – No difficulty.

1 – Waking in early hours of the morning but goes back to sleep.

2 – Unable to fall asleep again if he/ she gets out of bed.

7. WORK AND ACTIVITIES

0 – No difficulty

1 – Thoughts and feelings of incapacity, fatigue or weakness related to activities, work or hobbies.

2 – Loss of interest in activity, hobbies or work – either directly reported by the patient or indirect in listlessness, indecision and vacillation (feels he/she has to push self to work or activities).

3 – Decrease in actual time spent in activities or decrease in productivity.

4 – Stopped working because of present illness.

8. RETARDATION : PSYCHOMOTOR (Slowness of thought and speech, impaired ability to concentrate, decreased motor activity)

0 – Normal speech and thought.

1 – Slight retardation during the interview.

2 – Obvious retardation during the interview.

3 – Interview difficult.

4 – Complete stupor.

9. AGITATION

0 – None

1 – Fidgetiness.

2 – Playing with hands, hair, etc.

3 – Moving about, can't sit still.

4 – Hand wringing, nail biting, hair-pulling, biting of lips.

10. ANXIETY (PSYCHOLOGICAL)

0 – No difficulty

1 – Subjective tension and ittitability.

2 – Worrying about minor matters.

3 – Apprehensive attitude apparent in face or speech.

4 – Fears expressed without questioning.

11. ANXIETY SOMATIC

Physiological concomitants of anxiety (i.e. effects of autonomic overactivity, “butterflies”, indigestion, stomach cramps, belching, palpitations, hyperventilation, paresthesia, sweating, flushing, tremor, head ache, urinary frequency). Avoid asking about possible medications side effects (ie. Dry mouth, constipation).

0 – Absent

1 – Mild.

2 – Moderate

3 – Severe.

4 – Incapacitating.

12. SOMATIC SYMPTOMS (GASTRO-INTESTINAL)

0 – None

1 – Loss of appetite but eating without staff encouragement. Heavy feelings in abdomen.

2 – Difficulty eating without staff urging. Requests or requires laxatives or medication for bowels or medication for gastro-intestinal symptoms.

13. SOMATIC SYMPTOMS GENERAL

0 – None

1 – Heaviness in limbs, back or head. Backaches, headaches, muscle aches. Loss of energy and fatigability.

2 – Any clear- cut symptom rates 2.

14. GENITAL SYMPTOMS (Symptoms such as loss of libido; sexual performances; menstrual disturbances)

0 – Absent

1 – Mild

2 – Severe.

15. HYPOCHONDRIASIS

0 – Not present.

1 – Self – absorption (bodily).

2 – Preoccupation with health.

3 – Frequent complaints, requests for help, etc.

4 – Hypochondriacal delusions.

16. LOSS OF WEIGHT

0 – No weight loss.

1 – Probable weight loss associated with present illness.

2 – Definite (according to patient) weight loss.

3 – Not assessed.

17. INSIGHT

0 – Acknowledges being depressed and ill.

1 – Acknowledges illness but attributes cause to bad food, climate, overwork, virus, need for rest etc.

2 – Denies being ill at all.

18. DIURNAL VARIATION

A. Note whether symptoms are worse in morning or evening. If no diurnal variation, mark none.

0 –No variation

1 – Worse in A.M.

2 – Worse in P.M.

B. When present, mark the severity of the variation. Mark "None" if no variation.

0 – None

1 – Mild

2 – Severe

19. DEPERSONALIZATION AND DEREALIZATION

(such as : Feelings of unreality; Nihilistic ideas)

0 – Absent

1 – Mild

2 – Moderate

3 – Severe

4 – Incapacitating

20. PARANOID SYMPTOMS

0 – None

1 – Suspicious

2 – Ideas of reference

3 – Delusions of reference and persecution

21. OBSESSIONAL AND COMPULSIVE SYMPTOMS

0 – Absent

1 – Mild

2 – Severe

Interpretation of the HRDS Scale

Each question has between 3-5 possible responses which are arranged in the order of severity.

HAM-D score interpretation for level of depression as follows

Score	Level of depression
0-6	Normal
7-17	Mild
18-24	Moderate
More than 24	Severe depression

Score ranging from 0 to 53

APPENDIX - V

அளவுகோல்

அளவுகோல் I - சுயதகவல்

அளவுகோல் II - மனக்கவலைக்கான ஹமில்டன் தர அளவுகோல் (மேக்ஸ் ஹமில்டன் 1967)

அளவுகோல் I

சுயதகவல்

மாதிரி எண் :

வயது :

பால் :

கல்வி நிலை :

உத்தியோக நிலை :

வருமானம் :

வருமானம் ஈட்டுபவர் :

குடும்ப வகை :

குடும்பத்தில் மனக்கவலை :

உள்ளவர்கள் இருத்தல் :

சமூக ஆதரவு :

உடல் நோய் :

நோயாளியை சார்ந்திருப்பவர்களின் எண்ணிக்கை :

மனக்கவலைக்கான ஹமில்டன் தர அளவுகோல்

1. **மனக்கவலை (துக்கம், நம்பிக்கையின்மை, உதவியின்மை, உபயோகமற்ற நிலை)**
   - 0 - இல்லை
   - 1 - கேள்விக்கு பதிலளிக்கும் போது மட்டும் வெளிப்படுதல்
   - 2 - தானாகவே சொற்களின் மூலம் வெளிப்படுதல்
   - 3 - செயல்கள் மூலம் (முகபாவனை, குரல், அழுகை முயற்சி, உடற்தோற்றம்) வெளிப்படுதல்
   - 4 - நோயாளி தனது சொற்கள் மற்றும் செயல்கள் மூலம் தானாகவே உண்மையாகவே வெளிப்படுத்துதல்
2. **குற்ற உணர்வு**
   - 0 - இல்லை
   - 1 - தன்னைத்தானே நிந்தித்துக் கொள்ளுதல், மற்றவர்கள் தன்னைக் கைவிட்டு விட்டதாக உணர்தல்
   - 2 - குற்ற எண்ணங்கள் அல்லது பழைய தவறுகளையும் பாவச் செயல்களையும் பற்றியே சிந்தித்துக் கொண்டே இருத்தல்
   - 3 - தற்போதைய நோய் ஒரு தண்டனை, மாயக்குற்ற உணர்வு
   - 4 - தன்னைப் பற்றி குற்றம் சாட்டும் அல்லது பயமுறுத்தும் குரல்களைக் கேட்டல் மற்றும் / அல்லது அச்சுறுத்தும் தோற்ற பிரமை.
3. **தற்கொலை**
   - 0 - இல்லை
   - 1 - வாழ்க்கையில் வலிமை இல்லை என்று உணர்தல்
   - 2 - இறப்பதற்கு விரும்புதல் அல்லது தன்னுடைய இறப்பு பற்றிய எண்ணங்கள்
   - 3 - தற்கொலை எண்ணங்கள்
   - 4 - தற்கொலை முயற்சி

4. தூக்கமின்மை – ஆரம்ப நிலை

0 - தூக்கம் வருவதில் எந்தவித பிரச்சனையும் இல்லை

1 - சில நேரங்களில் தூக்கம் வருவதில் பிரச்சனை உள்ளது. அதாவது ½ மணி நேரத்திற்கு மேலாக

2 - தினமும் இரவில் தூக்கம் வருவதில் பிரச்சனை உள்ளது

5. தூக்கமின்மை – நடுநிலை

0 - பிரச்சனை இல்லை

1 - இரவில் ஒய்வற்ற நிலை மற்றும் தூக்கம் பாதித்தல் என்று நோயாளி தெரிவித்தல்

2 - இரவில் தூக்கத்திலிருந்து விழித்தல் - சிறுநீர் கழிப்பதற்கு தவிர

6. தூக்கமின்மை – இறுதி நிலை

0 - பிரச்சனை இல்லை

1 - அதிகாலையில் விழித்தல் ஆனால் மீண்டும் தூங்குதல்

2 - தூக்கத்திலிருந்து விழித்தால் மீண்டும் தூங்க இயலாமை

7. வேலை மற்றும் செயல்கள்

0 - பிரச்சனை இல்லை

1 - வேலை மற்றும் செயல்கள் செய்வதில் இயலாமை, வலுவின்மை போன்ற உணர்வு

2 - செயல்கள், வேலை மற்றும் பொழுது போக்குகளில் ஆர்வமின்மை என்று நோயாளியே கூறுதல் அல்லது கவனமின்மை, முடிவெடுக்க இயலாமை மூலம் வெளிப்படுதல்

3 - செயல்களுக்கு செலவிடும் நேரம் குறைதல் அல்லது செழுமை குறைதல்

4 - நோயின் காரணமாக வேலையிலிருந்து நிற்றல்

8. தாமதம் மனோதத்துவ இயக்க சக்தி

(எண்ணம் மற்றும் பேச்சில் வேகமின்மை, மனத்தை ஒருநிலைப்படுத்த இயலாமை, இயக்க சக்தி குறைதல்)

0 - சாதாரண நிலை பேச்சு மற்றும் எண்ணம்

1 - நேரில் பேசும்போது மெலிந்த அளவு தாமதம்

2 - நேரில் பேசும்போது தெளிவான தாமதம்

3 - நேரில் பேசுவதில் சிரமம்

4 - முழுவதுமான திக்பிரமை

9. கிளர்ச்சி நிலை

0 - இல்லை

1 - அமைதியில்லாமல் இயங்கும் நிலை

2 - கைகள் மற்றும் முடியுடன் விளையாடுதல்

3 - நகர்ந்து கொண்டே இருத்தல், ஒரிடத்தில் அமர இயலாமை

4 - கையை முறுக்குதல், நகம் கடித்தல், முடியை இழுத்தல், உதடுகளை கடித்தல்

10. மனவிசாரம் (மனரீதியானது)

0 - பிரச்சனை இல்லை

1 - தானாகவே மனதில் எழுகிற இறுக்கம் மற்றும் எரிச்சல்

2 - சிறு விஷயங்களுக்கும் கவலைப்படுதல்

3 - வெளிப்படையான பய உணர்வு, முகத்திலும் பேச்சிலும் தெரிதல்

4 - கேள்வி கேட்காமலேயே பய உணர்வை வெளிப்படுதல்

11. மனவிசாரம் (உடல் ரீதியானது)

மன விசாரம் உடற்கூறுடன் இணைந்த நிலை (அதாவது மிதமிஞ்சிய தன்னிச்சைச் செயல்கள், சீரணமின்மை, ஏப்பம், வயிற்றுப்போக்கு, பதட்டம், வியர்வை, நடுக்கம், தலைவலி, அடிக்கடி சிறுநீர் கழித்தல்) மருந்துகளின் பின்விளைவுகள் அதாவது மலச்சிக்கல், வாய் வறண்டு போதல் பற்றிக் கேட்பதைத் தவிர்க்கவும்.

0 - இல்லை

1 - தீவிரமற்ற நிலை

2 - மிதமான நிலை

3 - கடுமையான நிலை

4 - முடக்கமான நிலை

12. உடல்ரீதியான அறிகுறிகள் (சீரண மண்டலம்)

0 - இல்லை

1 - பசியின்மை ஆனால் மற்றவர்களின் தூண்டுதல் இல்லாமல் சாப்பிடுதல், வயிற்றில் கனமான உணர்வு

2 - அடுத்தவரின் தூண்டுதல் இல்லாமல் உணவு உட்கொள்ளுதலில் சிரமம், பசி ஏற்படுதல் மற்றும் உணவு உட்கொள்ளுதலின் அளவு குறைதல்

13. உடல்ரீதியான அறிகுறிகள் (பொதுவானது)

0 - இல்லை

1 - கால்கள், முதுகு மற்றும் தலை கனத்தல், முதுகு வலி, தலை வலி , தசை வலி, பலம் இழத்தல், சோர்வுற்ற நிலை

2 - தெளிவான அறிகுறிகள் இருந்தால் 2 மதிப்பு

14. பாலுறுப்பு அறிகுறிகள் (உடலுறவில் குறைபாடு, மாதவிடாய் கோளாறு)

0 - இல்லை

1 - தீவிரமற்ற நிலை

2 - கடுமையான நிலை

15. நோய்வாய்பட்டிருந்தால் காரணமின்றிக் கருதிக் கலக்கமுறும் மனநிலை

0 - இல்லை

1 - சுயஉட்கிரகித்தல் (உடல்)

2 - உடல் நலனில் ஆழ்ந்த ஆலோசனை

3 - அடிக்கடி தேக அசௌக்யம், உதவியை நாடுதல்

4 - நோய் வாய்ப்பட்டிருப்பதாகக் காரணமின்றி கருதும் மாய உணர்வு

16. உடல் எடை குறைதல்

0 - எடை குறைவு இல்லை

1 - நோயினால் எடை குறைவு ஏற்பட்டிருக்கக் கூடும்

2 - நிச்சயமாக எடைகுறைவு ஏற்பட்டுள்ளது.

3 - அளவு எடுக்கவில்லை

17. தன்னுடைய நிலை பற்றிய நுண்ணறிவு

0 - மனக்கவலை மற்றும் நோய் இருப்பதை ஒத்துக் கொள்ளுதல்

1 - நோய் இருப்பதை ஒத்துக் கொள்ளுதல், ஆனால் கெட்ட உணவுப் பொருள், தட்பவெப்பநிலை, வேலைப்பளு, வைரஸ், ஒய்வு இவைகளே நோய்க்கான காரணங்கள்

2 - நோய் இருப்பதை மறுத்தல்

18. அனுதின வேறுபாடு

அ. அறிகுறிகள் காலையில் அல்லது மாலையில் மோசமாக உள்ளதா என்று கவனிக்கவும். இல்லை எனில் 0-வைக் குறிக்க.

0 - வேற்றுமை இல்லை

1 - நடுப்பகலுக்கு முன் மோசமாக உள்ளது.

2 - பிற்பகலில் மோசமாக உள்ளது

ஆ. அறிகுறிகள்

0 - இல்லை

1 - தீவிரமற்ற நிலை

2 - கடுமையான நிலை

19. மனிதர்களைப் பற்றிய மற்றும் உலகத்தைப் பற்றிய அடையாளமற்ற நிலை (அதாவது உண்மையில்லாத உணர்வு, எதிலும் நம்பிக்கையில்லாத எண்ணங்கள்)

0 - இல்லை

1 - தீவிரமற்ற நிலை

2 - மிதமான நிலை

3 - கடுமையான நிலை

4 - முடக்கமான நிலை

20. நிரூபிக்க முடியாத அவநம்பிக்கை அறிகுறிகள்

0 - இல்லை

1 - சந்தேகம் நிறைந்த நிலை

2 - மற்றவர்கள் தன்னைப்பற்றி பேசுவது போன்ற எண்ணங்கள்

3 - மற்றவர்கள் தன்னைப்பற்றி பேசுவது மற்றும் துன்புறுத்துவது போன்ற மாய உணர்வுகள்

21. கொள்கைபிடிவாத நிர்ப்பந்த அறிகுறிகள்

0 - இல்லை

1 - தீவிரமற்ற நிலை

2 - கடுமையான நிலை

மதிப்பீடு

0 – 6	சாதாரணமானது
7 – 17	மிதமானது
18 – 24	தீவிரமற்ற நிலை
24க்கும் அதிகமாக	கடுமையானது